

Saving Your Brains

The Story of a Machine *that* Thinks for You

By WILLIAM EDWARD ROSS

NO matter how efficient we are, the thought frequently comes to us, "Am I sure that is right?" We may know that it is, feel absolutely sure of ourselves, but doubt has a sneaking way of slinking thru the doors of our minds, lodging its poisonous suspicions there, so that, in the end, to prove to ourselves that we are correct, we *prove our work*. This instance occurs not once, but hundreds of times in the course of a year, and sooner or later, we all experience the feeling.

Proving your work is good practice, but highly expensive in these days of keen competitive conditions. No matter how sure we may be of ourselves, we all at times experience a doubt of the infallibility of the human equation, even when that human equation happens to be ourselves. That this is so is natural, the reason being that we take pride in being right, and because mistakes are so costly that we cannot afford to make many of them.

America is the home of invention. So prolific has she been that the major number of the greatest, the most useful inventions the world has known proclaim her Mother. Not the least of these offsprings has been a machine with "brains," a figuring machine which saves the necessity of proving your work to insure the correctness of results, because it is so highly perfected that it reduces the chances for error to a minus quantity.

Nestling in the environs of the Oranges, a beautiful section of New Jersey, is a plant as modern and scientifically perfect as may be constructed, where may be found a little machine in process of manufacture, small enough to be carried from office to office, and large enough in brain capacity to save eighty-five thousand dollars in one year in the offices of the Tax Department of one of the foremost business states of the Union, which department enjoys the privilege of its services. The plant is the home of the Monroe Calculating Machine, which machine not only subtracts, but multiplies, divides and adds as easily as other machines I have seen perform addition.

This may seem like a more or less uninteresting statement in these days of mechanical perfection, but it has a most important bearing on the efficiency of the present day. Without this "brainy" little machine, and other mechanical inventions of the age, we would not now be conducting business on the enormous scale with which we are all so familiar, but be back in the days of not very long ago, when the head bookkeeper earned hardly more than thirty dollars a month, had to carry his work home to get it completed, and was continually existing in a state of fear and trembling, because he *did not know* when some inaccuracy would creep out that would cause him to lose his month's salary and his livelihood. We are living in

an age of speed, truly, but a much safer one than when even the tortoise outdistanced us in some things

Frank Stephen Baldwin, inventor of the Monroe Calculating Machine, commenced his mechanical inventions prior to the Civil War, but it was only at the commencement of the late World War that the world-wide possibilities of this machine were recognized, and its place in the "Business Sun" assured.

Fiction is full of strange situations and events, the product of the imagination of man. Commercial history is full of much stranger events, the product, also, of man's imagination. This being so, we find that the reason why fiction is so popular a form of reading is because it parallels fact, tho fact is often the more unbelievable. The greatest epic that can be penned is

the epic of American inventiveness, and no product has a greater or more interesting story than has this little twenty-six-pound machine.

The vicissitudes of the inventor of the Monroe Calculating Machine were many, and it was not until 1911 that his fortunes changed, for it was during that year that he first met Jay Randolph Monroe. Altho Mr. Monroe was associated with the Western Electric Company at the time, it was fortunate for the inventor that the latter's inclination tended toward mechanics. Mr. Monroe instantly recognized the value of a calculating machine *that would calculate*, and, convinced of the value of Mr. Baldwin's machine, he formed a partnership with the inventor which resulted in the designing and perfecting of the machine that is now recognized everywhere as being the only perfect calculating machine on the market—the Monroe Calculating Machine.

Mr. Monroe immediately organized the company which bears his name, and work was started at the present location

with three drill presses and a single lathe, the total value of the machinery at that time being about five hundred dollars. The manufacturing space comprised a part of one floor in the old section of their present quarters. Since that time, however, the Company has made tremendous strides, attaining as much in five years as many concerns in a similar line attained in twenty.

The point most aptly descriptive of the place of the Monroe in modern accountancy and office work is that it is *the straight line from problem to result*, and is an ironclad guarantee of absolute accuracy.

Many so-called calculating and adding machines require the services of skilled operators to obtain results. Weeks, yes months, of special training are necessary before proficiency in operation is secured. Not so with the Monroe. Anyone can take this little machine and with a few moments of practice and application, apply it successfully to the most compli-



PRESIDENT JAY RANDOLPH MONROE

cated figure work. The range of application is very wide indeed; in fact, covers the entire field of figures and intricate formulae. It seems almost uncanny to see the way it juggles those figures and then quickly turns up a positive proof of accuracy on the recording dials right before one's eyes.

To get an idea of how versatile this little "brain box" is, I learned that it had been selected by the Government in computing the points necessary to range-finding at the various artillery fields during the time our artillerists were being trained. The reason that it was chosen for this important work—and so far as I know it was the first time a calculating machine was ever accorded such an honor—was because of the speed in arriving at the results, as well as its absolute reliability. When an artilleryman has his big gun trained to hit a certain spot, he's got to know that range to a nicety before he lets go, and it was on this important job of figuring out the



GENERAL VIEW OF TOOL DEPARTMENT

ranges that the Monroe was used at several of the Government's proving grounds.

Altho young in years of service, fundamentally the Monroe is practically the oldest calculating machine on the market. The original machine invented was the first successful calculator to be put out, and the Monroe is the culmination of all the added perfections, as well as the elimination of all the imperfections of all calculating patents since the Civil War. Many of the machines manufactured in Europe are the direct offspring of Mr. Baldwin's original machine, so that it is safe to say that the leading calculating machines of the world are of Monroe origin.

When you and I went to school and wanted to find the difference between six and two, we were told to subtract two from six, which gave us the difference of four. We were not told by the teacher to use some roundabout method such as the adding of the complement to secure the proper answer. Naturally, we were taught that the quickest way to get the result, which is the basis of the Monroe way, was to perform the operation direct. The Monroe pursues the same course in computing a problem as we would do were we using pencil and paper, and it is this simplicity in principle that has made it so practical and universally useful.

One of the greatest drawbacks to the old style method of calculating by pencil and paper, not taking into consideration the errors that were likely to result, was the drudgery. Since the advent of a machine with "brains" enough to do this detailed figuring, man has his valuable brain energy left for the essential things. Under the old style methods, an employe went home so tired that he couldn't sleep. In fact, he was so tired during the day that he didn't have the time to improve his work, or develop in a way that improved the business. The calculating machine, by relieving this condition, has not only left an employe time to improve, but has been of direct benefit to his physical fitness.

The big idea of the Monroe Company is not so much in selling a machine, but selling the service that machine will perform. At one time in its history, it sent out over four thousand letters to customers asking for criticisms, with the end in view of im-

proving the service to the customer and tabulating a record of any weak points in that service. The result was inspiring. Not a serious complaint or criticism was received, and at this time the company does not know of a single dissatisfied user.

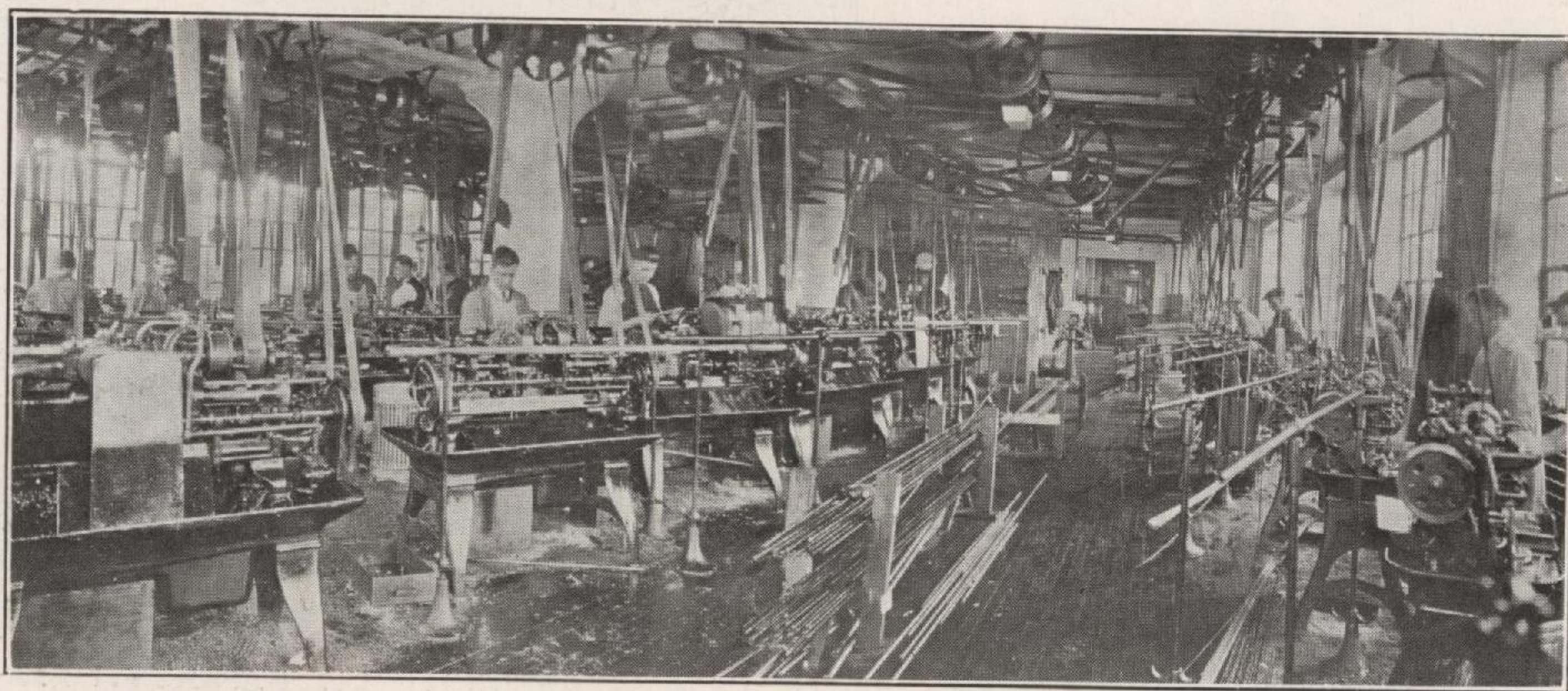
I sat in the office of one of the officers of the company until ten o'clock one night watching him demonstrate the varied accomplishments of the little machine, and, as I saw operation after operation—operations ranging from simple addition to cube root—accurately and successfully performed, I marvelled that a thing of steel, simple, not intricate, could so take on the attributes of the human mind, while eliminating its errors.

Simplicity of operation and simplicity of construction, combined with multiplicity of effort make the Monroe a saver of human effort as well as an eliminator of human errors. It has proven its ability to save not only costly clerical help, but the time of employes as well, thus leaving them free for other work and increasing the efficiency of the office where the machine with "brains" is employed.

Undoubtedly an asset to modern commercialism, its commercial side is of less importance in this article than its home life. In a factory where mathematics predominate one would not be surprised if much that is human were missing. In the home of the Monroe, however, tho efficiency is dominant, the human element is uppermost, and this is directly traceable to the pull-together, I-believe-in-you-and-my-work spirit that makes for co-operation in its highest form. That this is so, is directly due to the policy of President Jay R. Monroe.

Jay Randolph Monroe was born in South Haven, Michigan, January 6, 1883. His father, of Scotch decent, was a Michigan banker. The son received a thoro classical education in the John B. Stetson University, Florida, and Kalamazoo College, Michigan, and was graduated, LL.B., at the University of Michigan in 1906. He began his business career in the employ of the Western Electric Company of Chicago, in 1906, and in 1910 he was transferred to the New York office, in its legal department, where he remained until 1912 when he organized the company now bearing his name, and started manufacturing calculating machines.

The Monroe Calculating Machine Company has developed into a business amounting to several million dollars annually



VIEW OF AUTOMATIC SCREW MACHINE DEPARTMENT

and upwards of five hundred men are employed at the company's plant at Orange, on the original site of the first location of the company. Besides maintaining its home organization, the Monroe Company maintains over sixty offices in the United States, as well as many foreign agencies in leading cities of the world.

While Mr. Monroe's commercial rise is remarkable, it is his ability to organize, to surround himself with the right kind of associates that particularly emphasizes his fitness to lead. Mr. Monroe is just a little bit different from any other executive I ever met. It is his policy to make the men under him feel that they are as big as he is, providing they give the best they have. This spirit of belief in his associates has resulted in the Monroe plant becoming imbued with the Monroe spirit. The intangible is always hard to define. The Monroe spirit, however, may be described as being a spirit of faith—faith in the

organization, faith in the product, faith in each other, and faith in the ultimate success of all well directed effort.

The United States is a country of sudden achievements. We are getting used to them. However, when one senses the teamwork, the pull-together spirit of everyone employed at the Monroe plant, it can be instantly understood why these sudden rises happen.

Jay Randolph Monroe is thoroly democratic because he believes in his fellowman. His leadership is unconscious. In fact, he spurs, rather than leads. Many a prominent business man, and many a coming business has been marred by failure to secure the right kind of men to further its interests. In this particular instance, Mr. Monroe has been exceptionally fortunate. In picking his men he has counted more on willingness than knowledge of the line; on loyalty, rather than experience. Many of the men directing his departments had no previous experience in the mechanical field, but were rather men chosen because of their sympathies, their general executive ability.

In the course of a year's work devoted to interviewing and writing about men, one learns to respect the truism that no



PRESIDENT MONROE AT WORK

In case on left the original models of his calculating machine are displayed

two men are alike. This fact is driven home three hundred and sixty-five days of the year. The enthusiasm of the man with whom you talk marks the ratio of success your interview attains. Mr. Monroe is one of the most interesting men with whom I have ever had the pleasure of talking, the reason being that he is enthusiastic about his work. When I asked him the leading question, "How did you formulate the Monroe spirit?"—his answer was quickly given, and to the point: "I tried, and still try to put myself in the other fellow's shoes."

"When I put a job to a man," he continued, "I give him my ideas, then put the working out of the details directly up to him. He it is who is absolutely responsible for the success or failure of the work assigned to him."

"It is one of our rules that the line of authority be distinct. Every employe knows what his duties are, to whom he is responsible, what is expected of him. We make it a point to recognize endeavor, good work, not only with spoken encouragement, but by concrete addition in the shape of remuneration. The result has been that we have a satisfied organization."

"One of the most satisfying things to me is that our men work together, and by working together, they help themselves individually that much more. Tho a man's duties are distinctly defined, he must help others, another department,

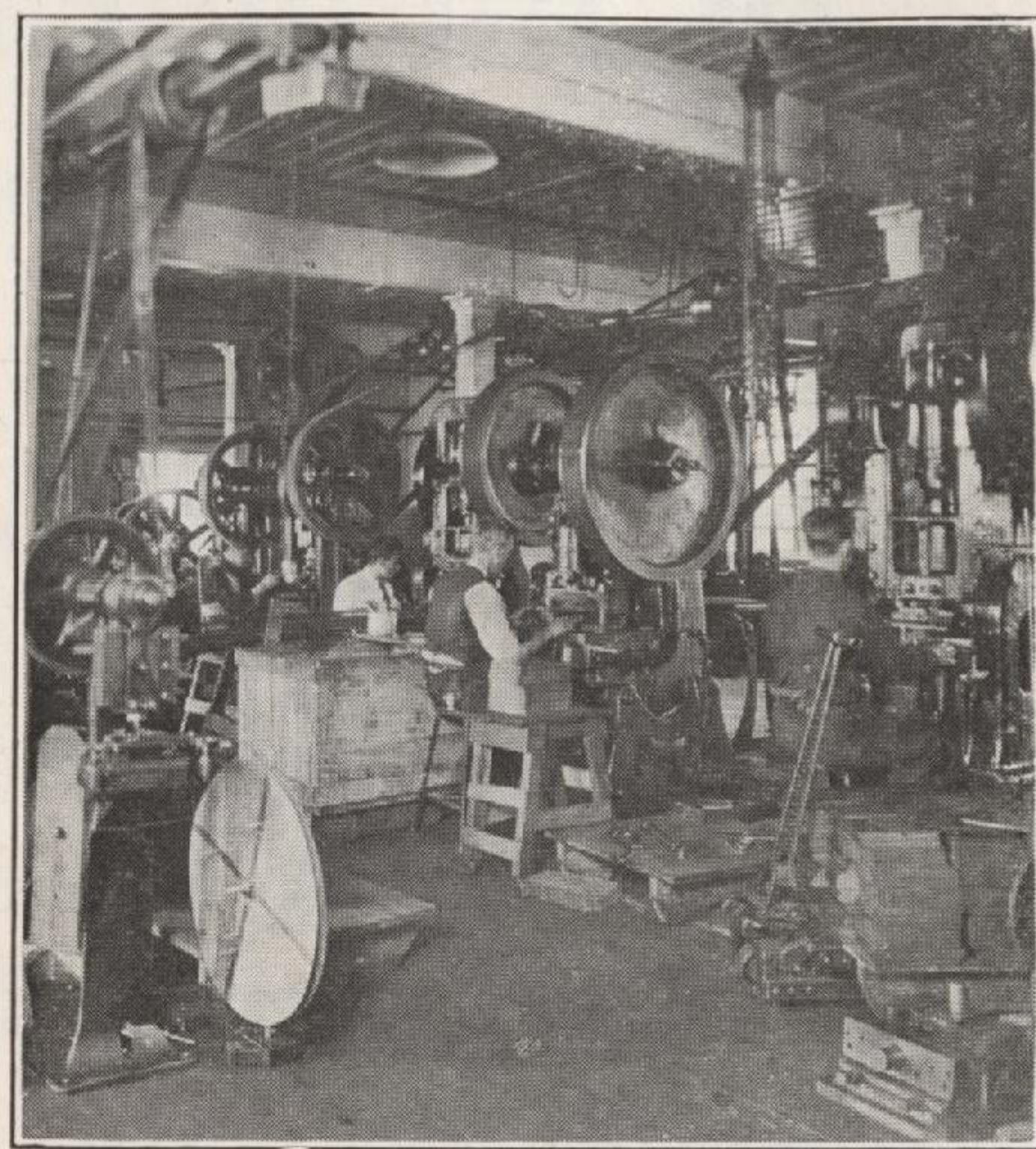
if necessary. I make it a point to encourage this angle, boost it along, especially in our sales department, where the men work on a commission basis. This get-together spirit has been firmly established thru the medium of our house organs, as well as personal contact."

The Monroe organization does not limit a man in any way. He is permitted to do a job in his own way as long as it is reasonable. Tho Mr. Monroe or some of the other officers may see a better way, they are perfectly willing that every man in the organization follow his own way, because—and here is the basis of the Monroe spirit—it means a lot to a man to know that those in authority have confidence

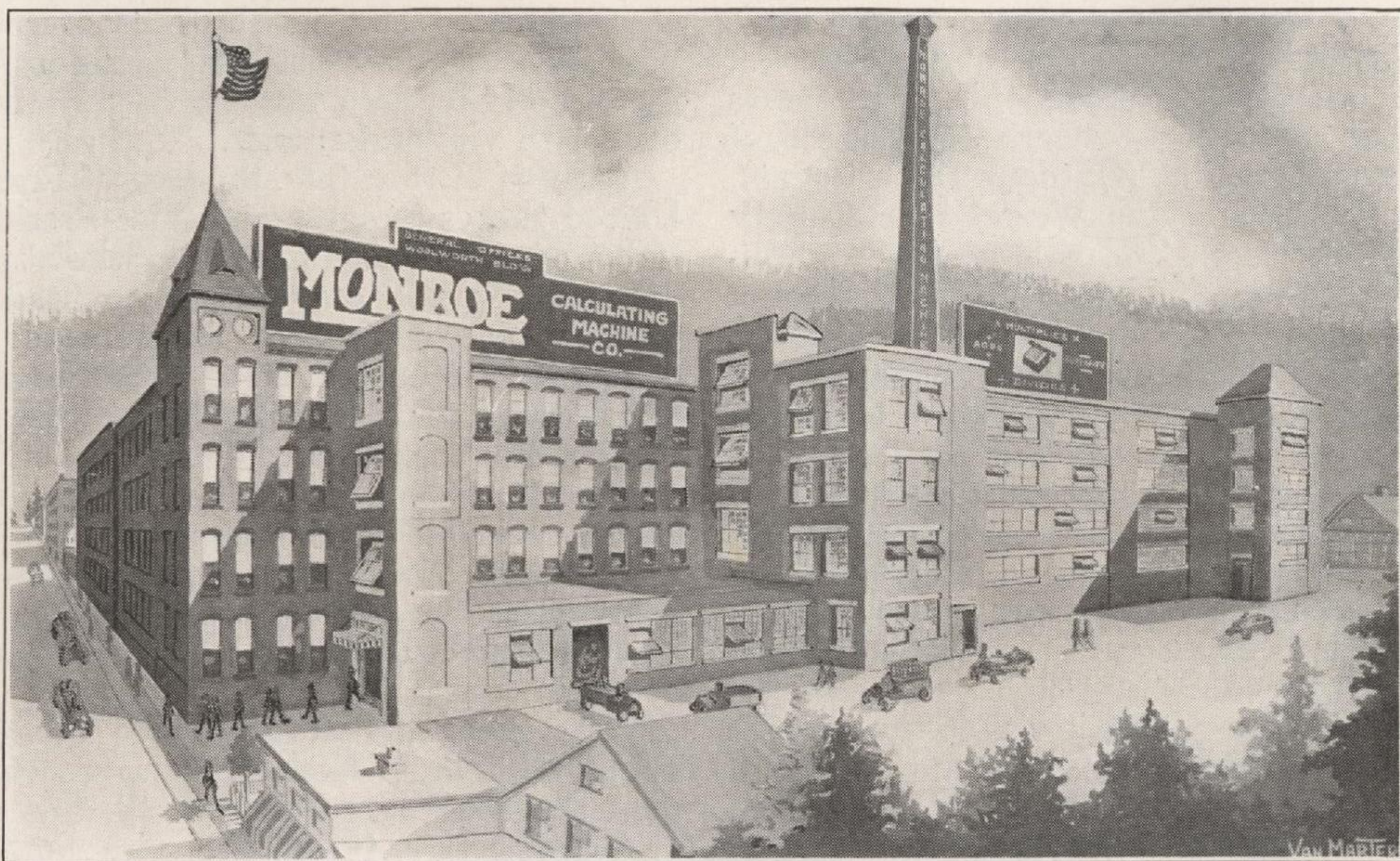
enough in him to permit him to handle a proposition as he thinks best. This phase of the Monroe spirit applies not only to the little things that come along, but to the big things as well. Many a firm makes a mistake of having a firm member handle the big things, with the result that the ambition which should be fostered in an employe is killed.

It is the policy of the Monroe Company to promote the men in their employ rather than to take on outside talent. This policy creates a spirit of loyalty within the ranks. Everyone helps the man promoted to make good. The policy of the company expressed in few words is the policy of the square deal. No man is discharged for personal reasons. Every individual case is given a thoro hearing. So desirous is the company of maintaining its organization intact, that after a man has been employed, he can assume he is permanent, provided he has anything to offer at all. In other words, if a man does not fit in one place, he is transferred to another department, and in this way, many of the best men of the company have been developed. The men know this, know if they don't fit in one place, they will be given a chance in another, know when they have been taken on the payroll they will be given every opportunity to fit in somewhere.

This, in brief, is the essence of the policy that the employes



WORKING ON MONROE PARTS
Punch Press Department



THE HOME OF THE MONROE

of the company have affectionately termed "The Monroe Spirit." The spirit, the results, the harmony that characterizes the workings of the Monroe organizations, is typically an example of the impression President (Continued on page 139)



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The Passing of James J. Hannerty

Continued from page 114

With his usual elimination of selfish interests, Mr. Hannerty contributed this work for use of the American Red Cross without expectation of return, with the belief that every household would want one of these diplomas to be framed and pointed to with pride in later years. The Red Cross officials in Washington expressed deep interest in the plan, and a great lithographing house provided the sketches and agreed to do the printing of the diplomas. Hannerty asked nothing better than that this, his last contribution, serve so great a purpose as an aid to his fellowmen.

Once when the tide of his fortune was at its lowest point, some friends, ignorant of his circumstances, called on him. After a few minutes of conversation someone asked, "Well, how are things coming on with you?" "Oh, fine," he replied, "Why I am the richest man in all this country today. I am worth millions. My assets are three meals a day, a place to sleep, and the love and respect of my friends, which is worth more than a hundred million dollars."

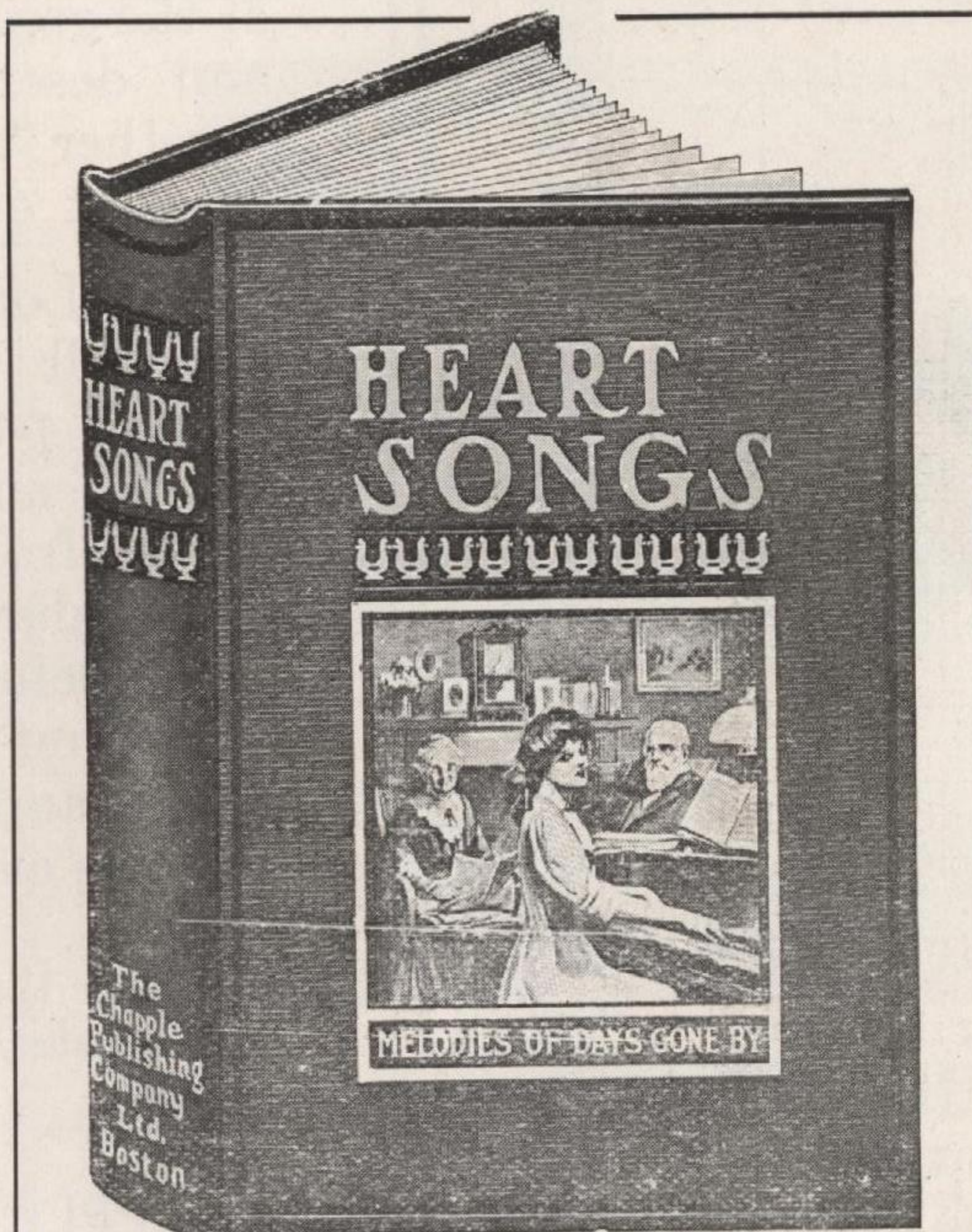
Save Your Brains

Continued from page 135

Monroe has made on his men. The predominant note of the institution could have been called nothing else than the Monroe spirit, because it has emanated from the chief. Modest, unassuming, believing in his product and his men, Mr. Monroe is of the type that encourages progressiveness in those with whom he is surrounded, thru the sheer force of the example he sets himself.

* * *

The Monroe Calculating Machine Company is an example of what the American factory has become: a school, a social center, a place where work is a question of love, rather than duty. It was this spirit of the Monroe factory, this spirit of other American institutions, that resulted in this country's phenomenal progress, because its units are so closely knit together that the interests of one are the interests of the other. The Monroe Calculating Machine Company is but one plant in the huge net-work of our industrial life, but its example is such that it is setting the pace for many older institutions, and because of this, because of what it has accomplished in a few years, the writing of its story adds another page to the textbook of American progressiveness.



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